Crash Investigation for "1st Responders" & "Safety Professionals"



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Responsible for commercial and non-commercial fleet safety processes.

Perdue employs about 750 commercial and about 400 non-commercial drivers, driving 54 MML miles annually.

Tommy holds professional certifications including;

Certified Transportation Professional, (CTP) Certified Director of Safety, (CDS) Certified Driver Trainer, (CDT) Certified "Operation Lifesaver" Volunteer

Tommy serves on the ASSE Transportation Practice Specialty Advisory Committee and NPTC National Advisory Board and Safety Committee. Tommy represents Perdue as a transportation safety professional with the American Society of Safety Professionals, National Private Truck Council and US Poultry & Egg Assn.

Presented By;

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There are two foundations on which a systematic crash program rest:

Crashes arise from specific causes

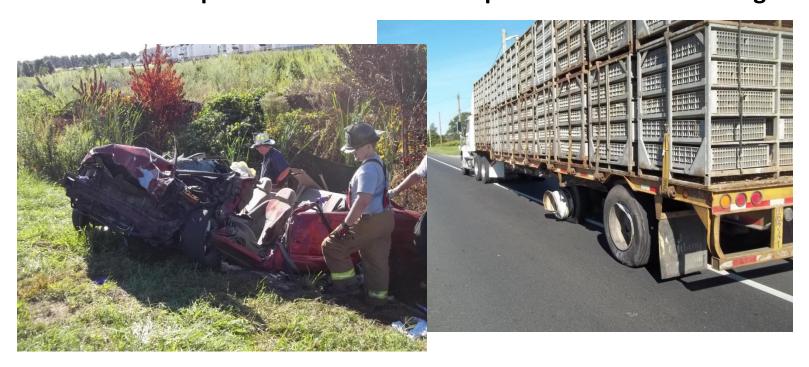
These causes can be identified and eliminated

Our job is to:

Prevent recurrence by determining causes

Protect against unwarranted or excessive financial liability

Provide an adequate basis for driver discipline or remedial training



The role of the investigator is to collect & preserve evidence. (Don't get tied up in determining cause before you gather your information.)



Crash investigation tools, equipment & supplies include:

- Your business card, Information for media contacts
- Photo Equipment (Camera)
- Plenty of film (additional digital card)
- Measuring tape & wheel
- Clip board
- Flash lights (2ea)
- Safety vest (Class III)
- Bump cap
- Latex gloves
- Ty-vex suit w/boots (Bio Hazards)
- Foul weather gear
- Writing instruments
- Pavement markers (Large chalk or crayon)
- Hammer
- Concrete nails
- Warning triangles
- Spill response kit
- Crash EAP (Blank from)
- Crash emergency contact list
- Paper, Forms & Reports
- Plenty of additional batteries (Camera and Flashlight)

What's In the Bag

Before you move out "Be Prepared"

Never jeopardize your safety. "Wear your PPE"

Class III Safety Vest Required
ANSI / ISEA 107

Respect Law Enforcement. "It's their roadway"

Responding & Investigating

For the Safety Supervisor First Responder



Before You Move Out

• Be Prepared (Response kit in order?)

- Have a plan
 - Who will respond?
 - Who will recover the vehicles?
 - Who will clean up the site?
 - Where will you take the damage / spoilage?
 - What resources will you need, (trucks, lifts, clean up tools, drivers, labor, etc.)

When the call comes in

- Begin to gather information (use a checklist, see EAP)
 - How serious is the accident? This can change rapidly.
- Begin the notification process. (Notify who you need, when you need to.)
 - Who is available, call them and put them on alert.
 - Who will be your support back at the terminal once you move out?
- Start your timeline; calls, actions, etc.
- Get organized. (Stay calm and in control)

Be ready, Be focused and expect the unexpected.

At The Scene

- Step back, get the big picture, don't go directly to task
 - Check for the unusual, power lines down, dangerous debris, accessibility ditches ingress / egress, recovery units w/associates in harms way, cleanup crew PPE,
 - Environmental support needed?
 - Utilities, Railroad, Aviation, Hazardous Materials Spill,
- Secure the scene
- Determine the level of support you are going to need. (Review Crash EAP)
- Find law enforcement
 - Introduce yourself and begin two way communication
 - Who is the investigating officer
 - Is there injured and if so, where did they take them.
 - Do we know if our driver will be cited? (This could lead to a required post accident test)
 - DO they need anything from us.
- Find and secure the driver
 - Remove as soon as possible for post accident testing
 - Reports need to be filled out! (This is a good way to get the driver out of the scene.
- Find out who in leading recovery, cleanup, on-scene management, etc who
 has been notified and who needs to be
- Walk the scene, remember, take notes or mark the AOIs, RPs, roadway markings, debris fields, direction trajectories, etc. you will come back to these points
- Take camera with you, photo anything that will move quickly.

Elements of a Crash Human, Vehicle & Environment

Human

- Drivers & Passengers
 - Identification & Contact information (usually from the driver information exchange)
 - Injuries
 - Driver condition
- Witnesses
 - Identification & Contact Information (most will not want to give statements at the scene.)
 - Relationship to drivers & passengers (are they related to people involved in the crash)
 - Where were they when the crash happened
 - What did they see
- Responders
 - Fire, EMS, Law Enforcement, DOT, Recovery, News media
 - Who got there first

• Vehicle

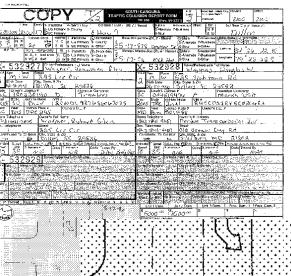
- Final resting points
- Type, year & model
- Damage , direct, indirect & undamaged
- Mechanical condition
- Loading condition
- Interior condition, debris, paraphernalia, etc.
- Was the driver wearing a seatbelt

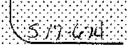
Environment

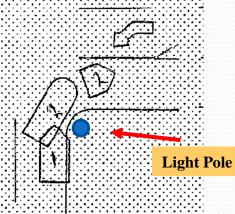
- Time of day
- Where the crash occurred; city, rural, near town etc.
- Traffic patterns, conditions, overtaking vehicles etc.
- Weather, visibility, lighting & road surface conditions
- Roadway type, condition and geometry
- Identifiable road hazards
- Physical evidence, skids, scrubs, gouges, debris, etc.

Right Front Tire Gouge **Collision Scrub**

Physical Evidence









Documenting & Documents

 Stick to the facts, what you know and can support with facts or physical evidence.
 (Do not make or state your unsupported opinions)

- Time of day
- Atmospheric conditions
- Direction of travel, ie:(Southbound on 195)
- Right side front tire damaged
- Transfer scrub between trailer and object struck
- Did not stop at stop completely
- Took eyes off the road

The responsibility of the investigator is to collect & preserve evidence. Don't get tied up in determining cause before you gather your information.



based on an unsupported opinion.

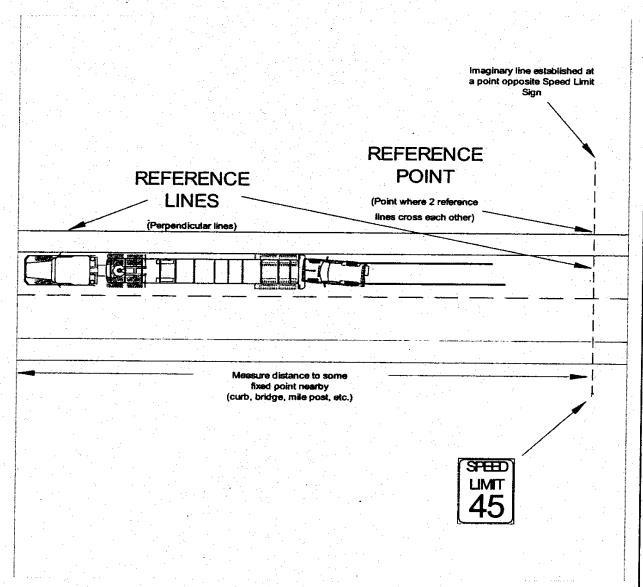
- Secure "All" documents, statements, reports, pictures, etc. no matter how minor they appear. Pictures, even bad ones sometimes can have the missing puzzle piece.
- Get the police report and send to Fleet Safety. Other items include;
 - Driver information exchange,
 - USDOT Vehicle Examination Report, any citations issued,
 - USDOT number of other truck
 - Did the other truck receive an USDOT Vehicle Examination report?
- Media releases, photographs, statements, etc.
 - Note: Any photographs taken by responding agencies. (Document agency).
 - Note any traffic cameras, property monitoring (private), etc. in the vicinity.

http://www.georgetown77.com/gallery.cfm?id=862

..\Training Data\New
folder\Picture1.jpg

Mapping & Measuring:

- Walk the scene and identify points to be measured by marking the pavement with chalk.
- Attempt to identify (AOI) Areas of Impact, (AOI-1, AOI-2, etc.) Mark them with chalk, flags, etc.
- Walk completely through the site from the first known evidence transfer to the final rest of each vehicle.
- Good Reference Points can be taken from sign posts, guardrail structure, telephone pole (has serial #), light poles, curbs, etc.
- Basic Concept; review next (2) slides.



In the above example, an imaginary line was established across the roadway at a point opposite a speed limit sign. It is imperative that the established reference line be located with respect to some other, permanent fixture (a bridge structure, a mile post, an intersecting street, etc.)

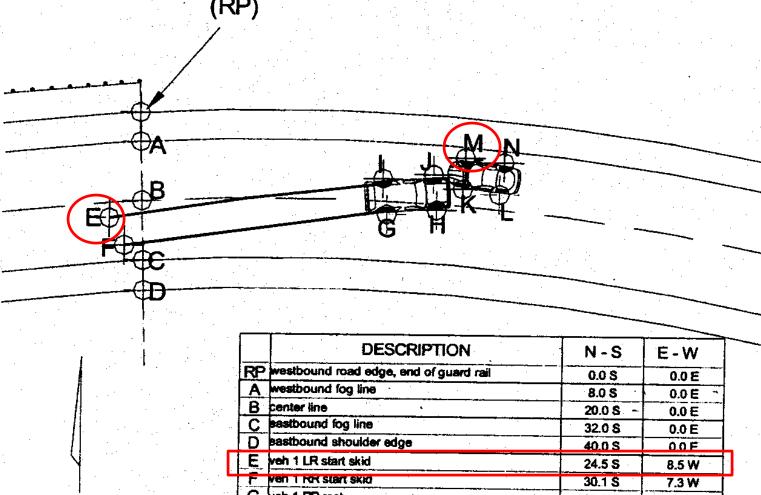
Establish a LINE
TO MEASURE From

(1) PP = Fixed object

(2) PP = End point of

Reference

REQUIRES 2=RP



	DESCRIPTION	N-S	E-W
RP		0.0 S	0.0 E
A	westbound fog line	8.0 S	0.0 E
В	center line	20.0 \$ -	0.0 E
С	sastbound fog line	32.0 8	0.0 E
D	eastbound shoulder edge	40.0 S	0.0 F
Ε	veh 1 LR start skid	24.5 S	8.5 W
F	ven 1 For stant skio	30.1 S	7.3 W
G	veh 1 RR rest	22.5 S	80.6 E
Н	veh 1 RF rest	20.4 S	89.0 E
	veh 1 LR rest	17.5 S	80.5 E
J	veh 1 LF rest	15.5 S	88.9 E
K	veh 2 LF rest	16.8 S	91.2 E
	voh 3 LP root	10.9 3	100.8 E
М	veh 2 RF rest	11.98	91.3 E
LN.	roli 2 filt rest	12.0 \$	100.9 E

ACCIDENT RECONSTRUCTION SERVICES, INC.

Collision Analysis and Traffic Accident Reconstruction
4891 INDEPENDENCE STREET SUITE 140 · WHEAT RIDGE, COLORADO 80033 · (303) 403-9045 · FAX (303)403-9401



File or Case #		Location of Accident		
Date of Acc.		Time of Acc.		
Date of Visit		Time on-scene		
Date of Visit	EIEI D CK	TTCH AND SCI	INE NOTES	

FIELD SKETCH AND SCENE NOTES

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Considerations

Roadway Geometry

- •The width of the; roads, lanes, shoulders, ditch, etc.
- •Intersection geometry.
- •Length of lane delineators and distance between them (especially helpful in interpreting photos)
- •Distance between roadway reflectors
- Distances from roadway markings to fixed objects, (Sign posts, guardrail, telephone pole, curb, etc.)

Evidence transfers !!!! (Are physical evidence)

- •The skid marks & distances vehicles traveled before and after impact,
 - •there may be multiple areas of impact.
- •Overall distance of 1st known evidence transfer to final rest of all vehicles.
- •Gouges in the pavement (place vehicles at a known location and position)
- •Length of furrows on unpaved surfaces
- •Paint scuffs, material left from grinding transfers (usually metal of some sort, sometimes rubber)
- •Height of alleged areas of impact between vehicles or objects.

(Explain Cofield complaint / truck strike building)

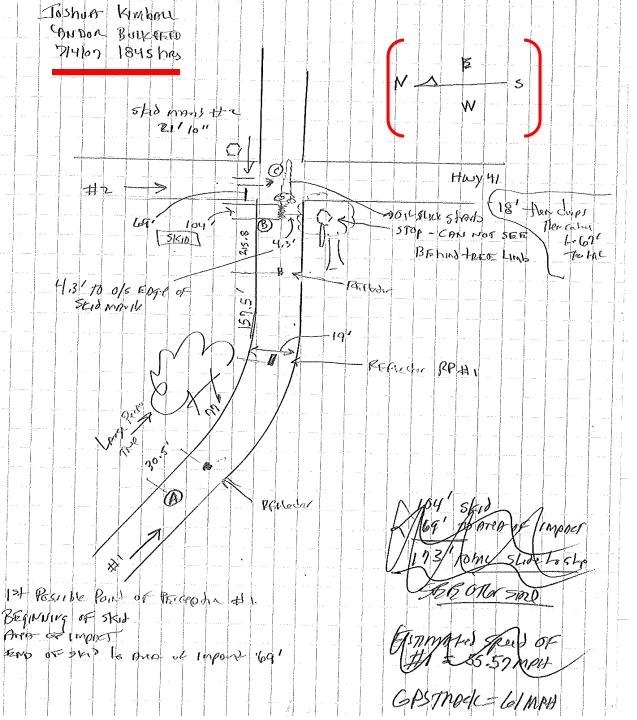
Environmental Factors

- Approx. height of the trees, shrubs, objects, signs and placement of them .
- •The 1st possible point of perception of all drivers involved
- •Lighting, artificial, natural, (glare, dusk, dawn, dark, etc.) Note the time of day and correlate to sunrise / sunset.

Field Sketching

The severity of the crash will determine the comprehensiveness of the field sketch.

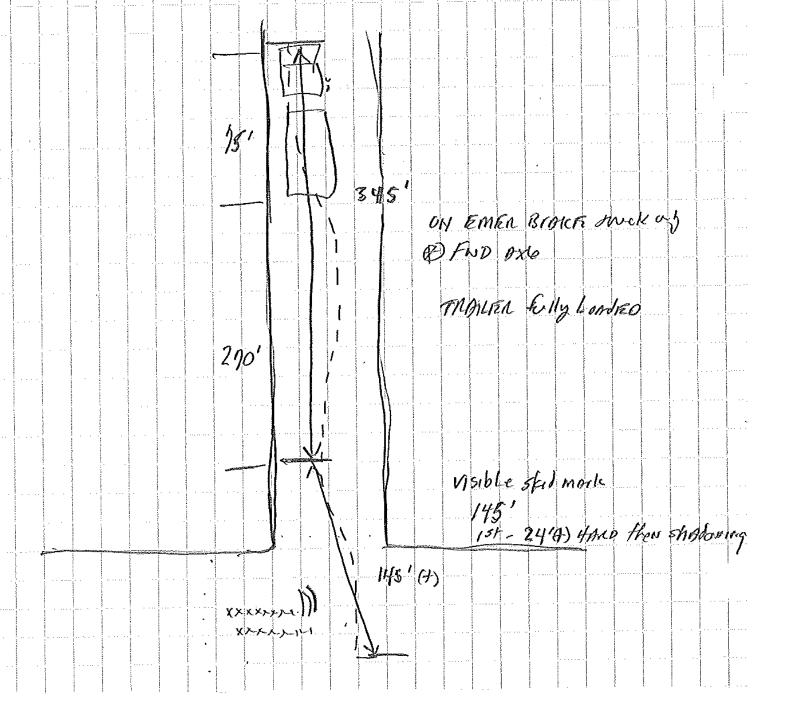
- The use of photos as in the following case files will serve well in most cases.
- With good data collection you will be able to reproduce good sketches.
- When severe crashes occur especially involving 3rd parties more detailed sketches may be needed.
 - Use permanent (RP) reference points
 - Use (AOI) for areas of impact
 - Make an organized detailed legible notes page
 - Include in notes section specifics such as; pavement types, conditions, temporary evidence etc.

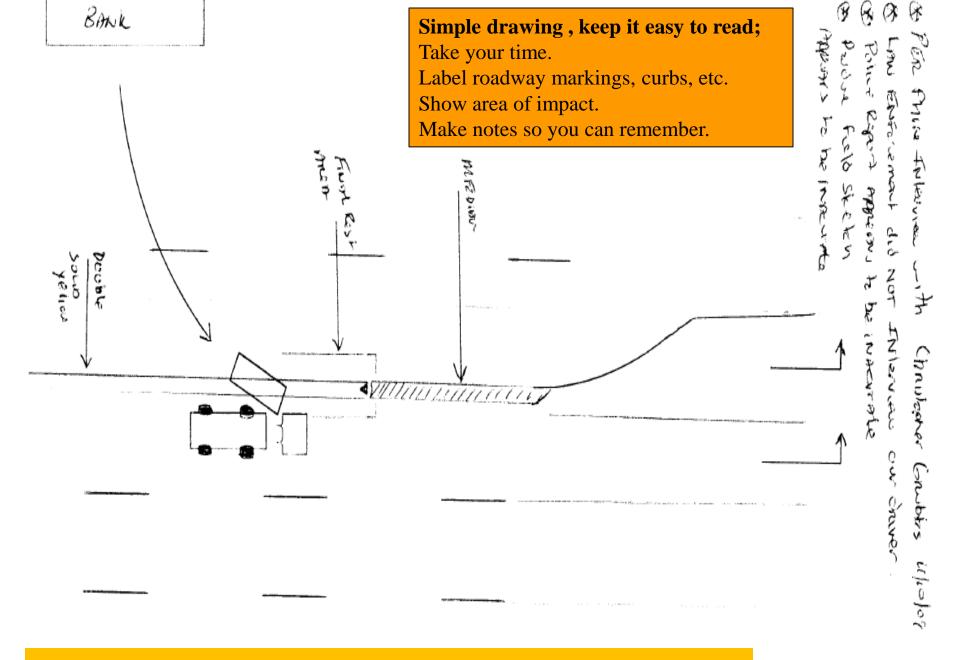


Mapping

Accident
Reconstruction
Engineers may use
your map.

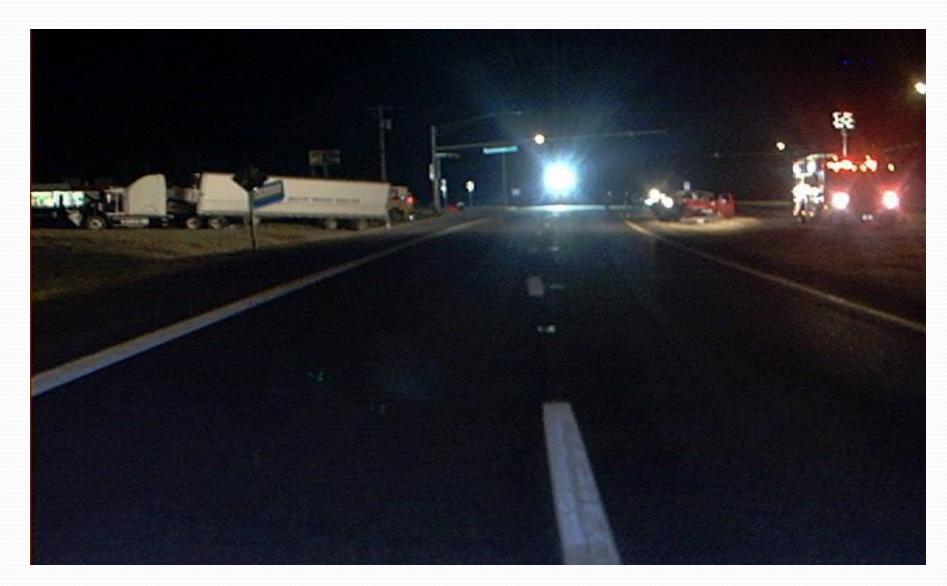
- > Date
- >Time
- **≻**Compass
- > Measurements
- >AOI / POI
- >Ledger explanation





Your drawing may be used to rebut police reports.

Photographing a Crash Scene



Physical Evidence

It is important to visit the accident scene promptly before physical evidence is removed or destroyed in order to document it.

One of the best and quickest ways to preserve physical evidence is to photograph it.

Vehicles: (Get cleared away fast)

Debris: (Gets swept away fast) establishes area, not the exact point of impact direction of travel and position in some cases.

Tire Marks: (usually will remain for a while) Skidding, heated rubber transfers, etc. in most cases you can re-visit in the daylight and / or during low volume traffic times.

Gouges: (Stay for a long time) marks made by the vehicle under stress and forces of impact.

Collision Scrubs: (Stay for a long time) marks made by vehicles colliding with each other, trees, guardrails, poles, curbs, buildings, etc.

Foliage: line of sight. (Usually have some time, don't delay to much.) Generally if it is worth preserving it is valuable evidence.

Photographing the accident scene

- Begin by identifying critical points of reference and mark them with pavement and / or ground markers. Keep these points of reference within the view finder as you photograph the scene.
- 1st, Photograph evidence that will quickly be removed or destroyed
 - When taking photos, keep possible RPs in the view finder. This way engineers can re-construct if needed.
- Photographs should be at either right angles to or parallel with the roadway.
 - > This will assist the engineers in the event of re-construction
 - > Step back, get the big picture, then move in and get the close-up
- Make a picture log & file

What are you going to photograph?

- Vehicle positions
- ➤ Footprints that will be destroyed by recovery and cleanup equipment
- > Damage to the vehicles, license tags and (interiors-if needed to preserve evidence.)
- > Debris fields
- > Any posted traffic control signs at and leading up to the intersection / scene.
- The approach path of all vehicles involved (about 1500 ft back to impact)
- ➤ A view in all (4) directions looking back from the area of impact.
- > Tire markings, evidence transfers, vehicle footprints on the shoulders
- Collision points on buildings, guardrails, trees, poles, signs, curbs, walls, objects, etc.
- Property damage
- Foliage interference

File or Case #			- 1,50	Subject of Photos					Roll#		
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Date of Photos				Time of Photos		Taken By				1 11 11	
Camera Info.					Film Used		Flash	(Y/N)	4.4 11.4.1		. 2222
	7.5										

	DIRECTION	DESCRIPTION OF PHOTO
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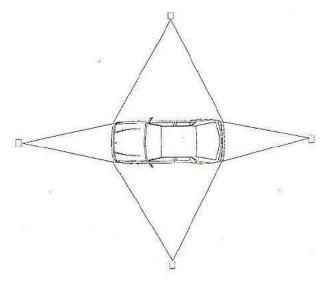


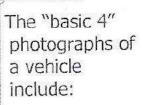
Photographing the vehicle

The standard method of "documenting" any vehicle involves taking four photographs.

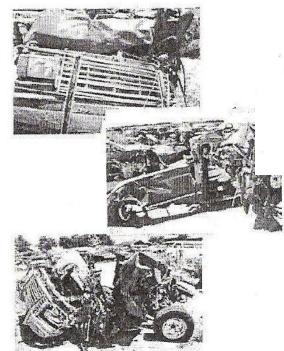
- Each taken at a right angle to one of the sides. This will permit damaged areas to be defined precisely as to size and depth.
- Identification by license tag should appear in at least one of the photos.
- When photographing damage, first take a wide angle view then zoom in on the area of focus.

(Review next slide)





- 1. Front
- 2. Left Side
- 3. Right Side
- 4. Rear



2 Right Bright to the Vishicle

V. Photographic Techniques in the Field

A. Vehicles

Vehicles should be photographed to document areas of physical damage from the event, as well as documenting areas that were **not** damaged.

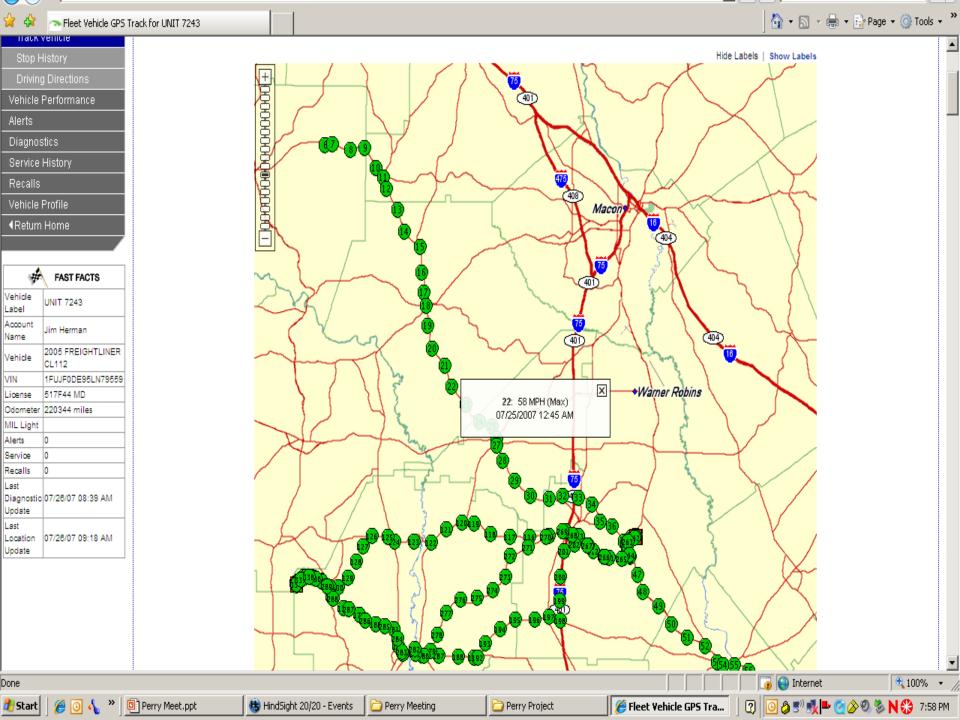
- Basic four photographs
- Perimeter photographs taken of exterior of vehicle
- 3. Photographs of safety related components (such as tires, lamps, mirrors, safety inspection labels, seat belts, air bags)
- 4. Photographs of interior compartment
- 5. Photographs of safety components within interior of vehicle

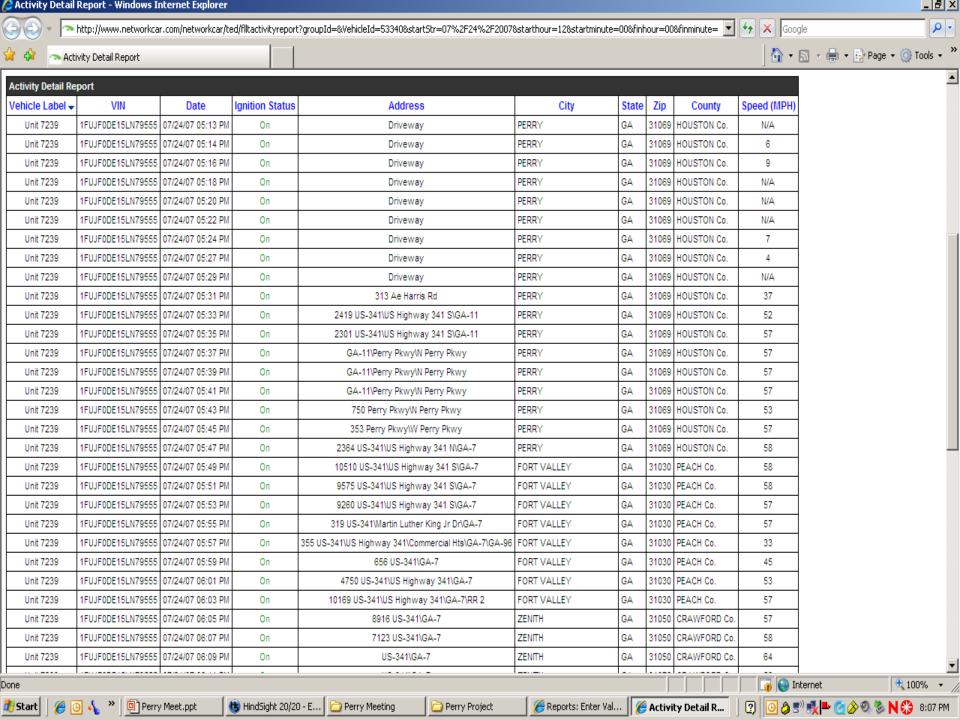
Remember to
Photograph Scene Approach, other etc.

VEhICLE

Technology Data / Evidence

- OBD (On Board Diagnostics)
- ECM (Electronic Control Module)
- OBDR (On Board Data Recording)
- GPS (Global Positioning)
- Video (Truck Mounted Event Recorder, Camera)
- VORAD (Vehicle On Board Radar Detection)





Video Evidence



A picture tells a thousand words. A video tells a story.

Safeguarding Video Evidence



- **✓** Who will have access to the video events
- ✓ Who is authorized to download videos!
- **✓** Have pre-established retention guidelines.
- ✓ Develop and have ready a non-disclosure agreement

Video Evidence

The phantom vehicle;

```
..\New folder\001 V18-210 ETHL08724.dce
```

... \New folder\002 V18-210 2nd Clip ETHL08728.dce

The mirror swap;

..\New folder\004 ETNL06486.dce

Your driver did not cause this?

... \New folder\008 V19-151 Drivecam Event ETQZ58683.dce

...\New folder\008a V19-151 - Clip 2 ETQZ58687.dce

Post Accident Management Actions

Safeguard the vehicle.

- Have towed to Company property.
- Secure it, including the trailer.
- Do not begin repairs until cleared to do so.
- Do not download ECM until cleared to do so.

Safeguard the driver associate.

 If the Company driver is injured, have a member of management attend to the driver.

Do not over-communicate.

- Restrict emails, etc. Stick to competing and sending the required forms, data, photographs, etc. Anything we put in writing we will have to explain, (it is discoverable).

Whenever legal becomes involved,

- Stick to your process although all documentation and interviewing should be done at the advice of counsel
- Have this spelled out in a written SOP / Policy

Post Accident Recording



DOT Requirements

FMCSR §390.15

- (b) Motor carriers must maintain an accident register for 3 years after the date of each accident. Information placed in the accident register must contain at least the following:
 - (1) A list of accidents as defined at §390.5
 - (i) Date of accident.
 - (ii) City or town, and the State where the accident occurred.
 - (iii) Driver Name.
 - (iv) Number of injuries.
 - (v) Number of fatalities.
 - (vi) Whether hazardous materials, other than fuel spilled.
 - (2) Copies of all accident reports required by State



Fleet Safety A Look Into MVA Litigation



PERDUE

Tommy Pollard CTP, CDS, CDT

Criminal, Civil, Punitive actions

Criminal Acts

In criminal law, a guilty defendant is punished by either (1) incarceration in a jail or prison, (2) fine paid to the government, etc.

• Civil cases a contest to adjudicate financial responsibility.

- Determination of financial responsibility to the accident in whole or part of.
- A defendant in civil litigation is not incarcerated. In general, a losing defendant in civil litigation only reimburses the plaintiff for losses caused by the defendant's behavior
- In a civil case there is a possibility of punitive damages, if the defendant's conduct is egregious and had either (1) a malicious intent (a desire to cause harm), (2) gross negligence (a conscious indifference), or (3) a willful disregard for the rights of others.

Punitive Cases

- A contest to determine if punishment is due, usually for negligence on behalf of the responsible party.
- Findings usually develop from unsatisfactory management controls.
 - Negligent entrustment, willful acts, gross negligence, etc.
- The use of punitive damages makes a public example of the defendant and supposedly deters future wrongful conduct by others

Punitive Examples

- Lip Service to policy?
- Ignoring Avoidance Technologies ?
 - ✓ Enforce policies / driver behavior

Entrustment Examples

- > Is your driver is fit for duty?
 - ✓ DQ File complete and up to date
 - ✓ DOT Medical Card current
 - √ License current
 - ✓ Compliance with Hours of Service rules
 - ✓ Vehicle readiness / maintenance





Negligent Entrustment Is Based on What You Should Have Known or should have done

- Apply fair and consistent execution of policies, "Every day".
- Have written policy or standard? You better be supporting it with documented action and accountability.
- Administer accountabilities as prescribed. (A day off without pay, means just that. Don't get caught angling for the sake of production.)
- During investigations, don't formulate unsupported opinions. (Stick to the facts)
- In general conversations, don't indicate or say things like, "Because you governed the speed of the truck it made it unsafe". You may be called to support your statement.

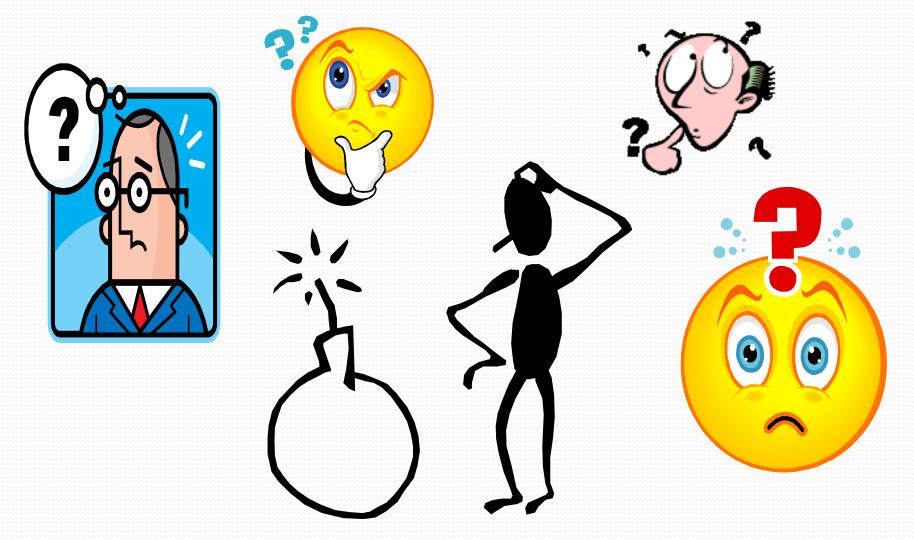
Discovery and Depositions

- **During Discovery** plaintiffs and defendants learn about each other's cases. This includes;
 - depositions, written questions (interrogatories), requests for documents, subpoenas, etc.
- Documents usually requested immediately during discovery;
 - Driver DQ File
 - Driver personnel file
 - Accident investigation file
 - Hours of Service logs
 - Secure the vehicle
 - Vehicle inspection records
 - Vehicle weight records

- List all associates at the scene
- Accident photos
- All Fleet Safety policies
- Relevant training documents
- Dispatch records
- Vehicle "black box" download



Questions,,,&@\$&@\$Q@&^



Thank you for your time.

Credits & Resource Materials

- ► NATMI (North American Transportation Management Institute)
- Northwestern University (Traffic Template & Coefficient Tables)
- Dr. Paul Olsen (Perception Reaction Times)
- MARSH Risk Consulting (Stopping Distance Tables)
- LYTX "Drive Cam" (Video Event Recording)
- Network Fleet (GPS Tracking)
- Accident Reconstruction Services Inc. (Field Sketching and Notes)
- ANSI / ISEA 107
- ► ASSE (Fleet Safety for Safety Professionals and Fleet Managers, 2015)
- National Safety Council (A Guide to Determine Motor Vehicle Collision Preventability)
- ► FMCSA (Federal Motor Carrier Administration)
- Company Farms (Presented by Tommy Pollard, CTP, CDS, CDT)
 - O 864-982-7629, C 843-632-0690